

## ABSTRACT

A graphics system and method for displaying lines on a display device. The system may comprise a sample buffer, a rendering unit and a sample-to-pixel calculation unit. The rendering unit may (a) generate a plurality of sample positions in a two-dimensional space, (b) determine a sample normal distance for each of the sample positions with respect to a line defined by the line-draw command, (c) assign sample values to the sample positions based on the sample normal distance of each of the sample positions, and (d) store the sample values in the sample buffer. The sample-to-pixel calculation unit may read sample values from the sample buffer, filter them to determine a pixel value, and transmit the pixel value to the display device. The rendering unit may render the line sample values with a narrower width to pre-compensate for the line-expanding effect of the filtering performed by the sample-to-pixel calculation unit.

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